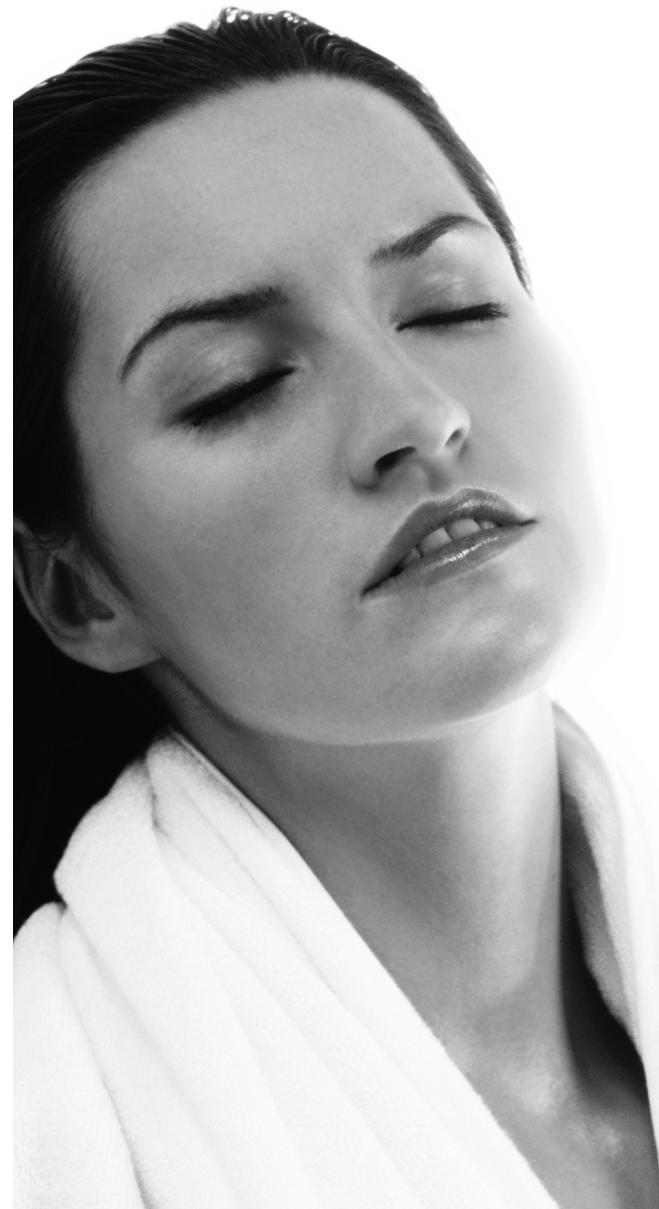


BRISTAN



Installation Instructions and User Guide

Shower Pumps

Please keep this booklet for future reference

Installer, when you have read these instructions, please ensure you leave them with the user.

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404-0172E

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Guarantee

Guarantee

Thank you for purchasing a Bristan product. This product has been designed, manufactured and tested, in the U.K., to the highest standards.

Guarantee: 2 Years - Parts

1 Year - Labour (Subject to Registration).

This guarantee applies to products purchased within the United Kingdom or Republic of Ireland, but does not apply to products used commercially.

This is provided that:

1. The guarantee registration card is completed and returned within ten days complete with a copy of proof of purchase. Proof of purchase is required for any servicing requirements.
2. The product is installed and operated in accordance with our instructions and has not been misused or damaged.

This in no way affects your statutory rights as a consumer.

The information on the Guarantee card helps Bristan to process any claims and contact you about your product and its maintenance if required. The registration of your personal details is purely for Bristan use and the remaining information helps us to make products for the future.

Should a complaint arise, products are guaranteed against faulty workmanship and materials for a period of 12 months from the date of purchase, when in domestic use (second year guarantee is parts only). For your guarantee to be valid, your shower must be installed by a competent person, in accordance with the instruction manual.

Bristan will repair or replace (at our option), free of charge, any faulty components during the guarantee period, provided it has been maintained and operated in accordance with our instructions, and has not been misused or damaged.

Modification or repair of this product by person(s) not authorised by Bristan will invalidate this guarantee.

This guarantee does not affect your statutory rights.

Please Note:

In line with our policy of continued product development, the specifications may be varied and the product design altered. We reserve the right to depart from the details given in this manual without prior notice.

Service Policy

Replacement Parts Policy

IMPORTANT:

In the event of product or component malfunction, **DO NOT** tamper with or remove the product from site. Telephone the Customer Services Department and be prepared with the date of purchase, model number and a clear description of the complaint.

Our service staff are fully qualified to advise on correct installation procedures and will be able to diagnose whether the fault will require a replacement part or a visit from a Bristan engineer.

If required, a service call will be booked and either yourself or an appointed representative (who should be a person of 18 years or over) must be present during the visit.

All site visits to product within the guarantee period will be carried out free of any parts or labour charges provided the conditions of the guarantee have been adhered to (the second year guarantee is parts only).

All site visits to product out of guarantee will be subject to charges for parts and labour. Charges will also be levied on cancelled appointments, unless advised to

Bristan at least 24 hours in advance of the agreed date and time.

Should a product be discontinued, spare parts stocks will be maintained, but in the event of a part becoming unavailable Bristan reserve the right to supply a substitute of equal quality.

For spare parts, please contact Customer Services or via Bristan website.

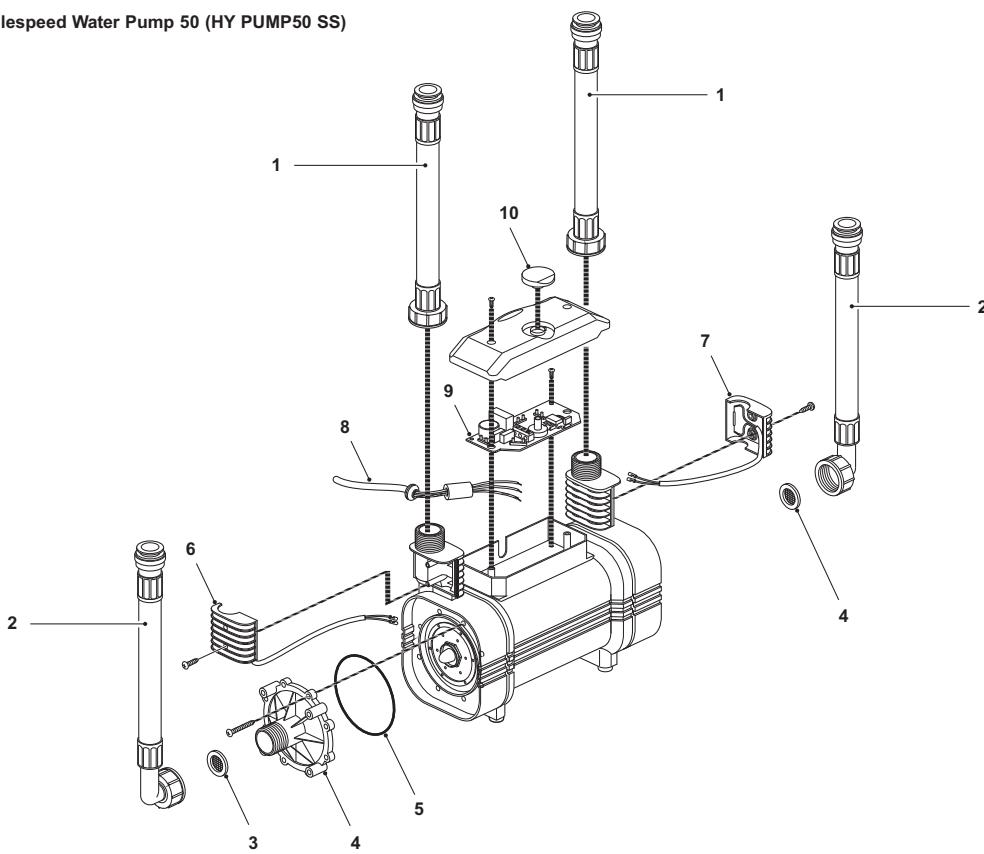
Customer Service:

Tel: 0844 701 6273 • Fax: 0844 701 6275

E-mail: enquire@bristan.com

Spare Parts - Singlespeed Water Pump 50

Singlespeed Water Pump 50 (HY PUMP50 SS)



No.	Part No.	Description	No.Of
01	SP-035-0050	Flexible Hose (Outlet)	2
02	SP-035-0051	Flexible Hose (Inlet)	2
03	SP-035-0041	Inlet Filter	1
04	SP-088-0004	Inlet Plate	1
05	SP-320-0044	Inlet Plate 'O' Ring	1
06	SP-088-0108-LH	Reed Switch Assembly (LH)	1
07	SP-088-0108-RH	Reed Switch Assembly (RH)	1
08	(ITEM NOT SUPPLIED)	Flex	-
09	(ITEM NOT SUPPLIED)	Printed Circuit Board	-
10	SP-088-0016	Blanking Cap	1

Important Safety Information

- Please read these instructions thoroughly and retain for future use.
- All products manufactured and supplied by Bristan are safe provided they are installed, used correctly and receive regular maintenance in accordance with these instructions.
- If you are in any doubt what so ever about your ability to install this product safely you must employ the services of an experienced qualified plumber.
- Do not operate the pump unit if you suspect it is frozen. Do not site the pump unit where it might be subjected to freezing conditions.
- Do not operate the pump unit if the showerhead or spray hose has been damaged or is blocked.
- Do not block the flow of water from the showerhead, by placing it (smothering it) on your hand or any other part of your body or foreign object.
- Do not operate the pump if the water stops flowing during use or if the water is leaking from the shower unit itself.

General Safety

- Always switch off the power at the consumer unit and remove the correct circuit fuse before making any electrical connections or if you have to remove the cover of an installed unit.
- If the pump unit is fitted in a hard water area, a scale inhibitor may have to be fitted and the filter cleaned regularly. For more advice on obtaining a scale inhibitor, visit local merchant or DIY store.

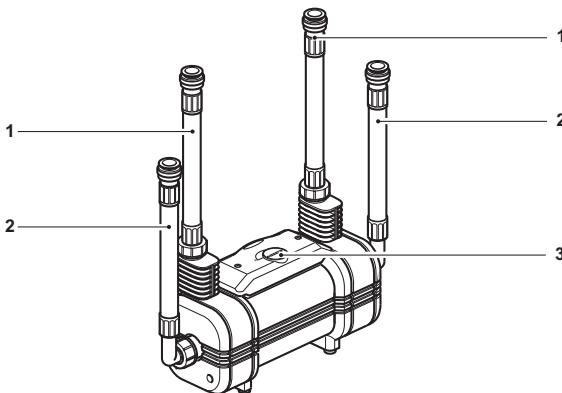
WARNING: THIS APPLIANCE IS NOT TO BE TOUCHED OR HANDLED OR HANDLED BY CHILDREN, THE INFIRM OR INDIVIDUALS WITH A PHYSICAL OR MENTAL DISABILITY.

PLEASE NOTE:
THE DUTY RATING OF THIS PUMP IS 15min ON / 60min OFF.



BEAB (British Electrotechnical Approvals Board) approval of safety.

Product Features



Duraspeed Water Pump 50

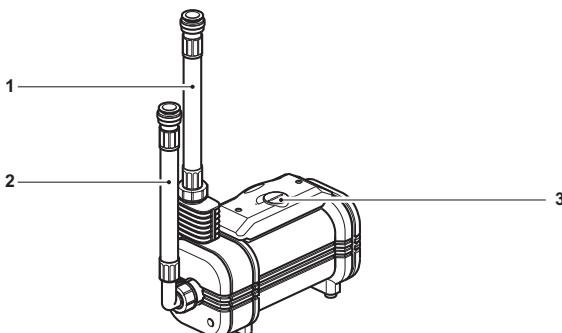
Duraspeed Water Pump 70

Varispeed Water Pump 50

1. Outlet Connector

2. Inlet Connector

3. Boost Control

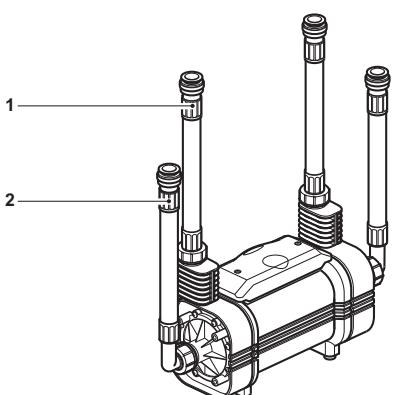


Varispeed SI Water Pump 50

1. Outlet Connector

2. Inlet Connector

3. Boost Control



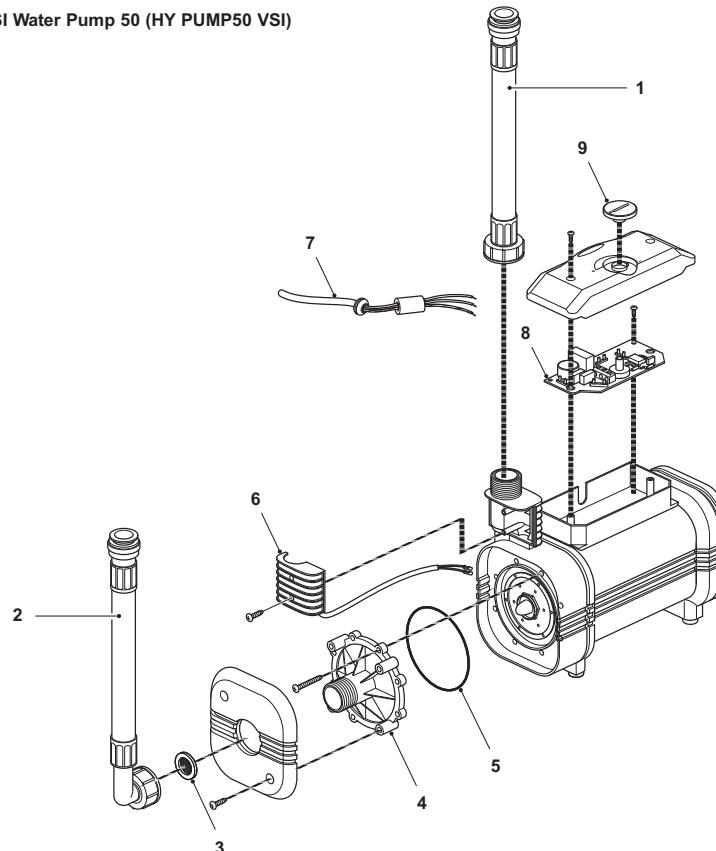
Singlespeed Water Pump 50

1. Outlet Connector

2. Inlet Connector

Spare Parts - Varispeed SI Water Pump 50

Varispeed SI Water Pump 50 (HY PUMP50 VSI)



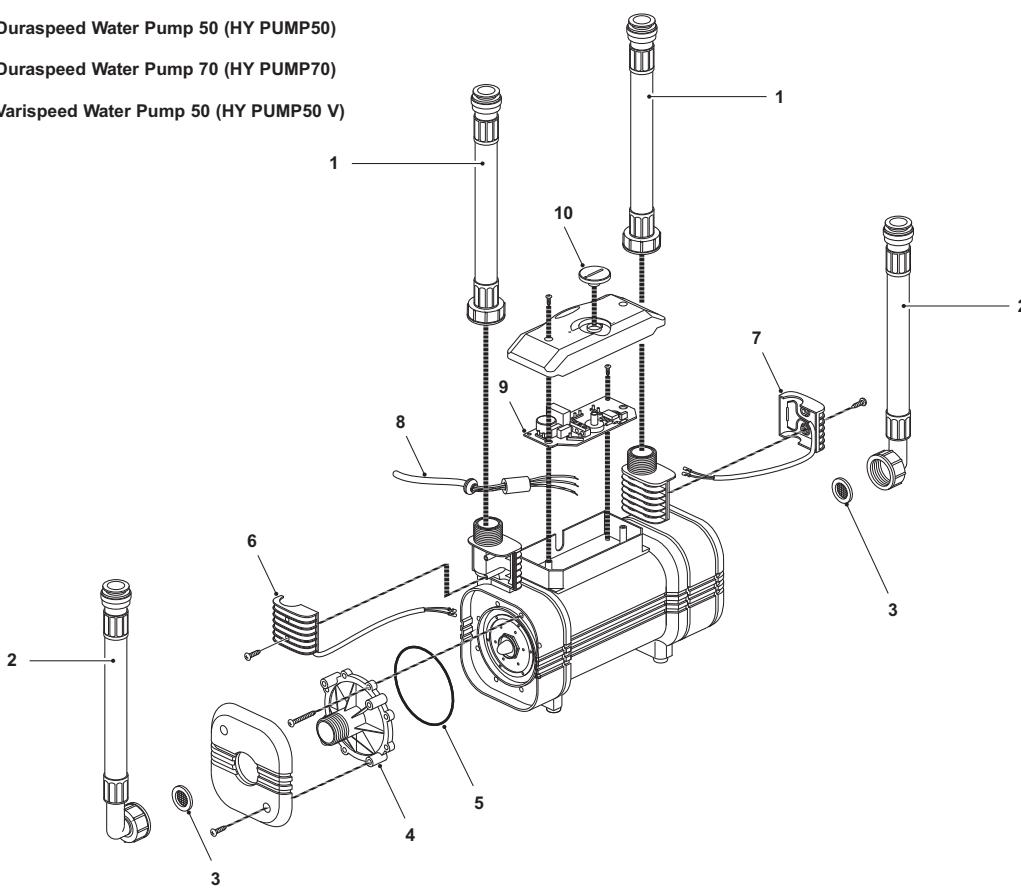
No.	Part No.	Description	No. Of
01	SP-035-0050	Flexible Hose (Outlet)	1
02	SP-035-0051	Flexible Hose (Inlet)	1
03	SP-035-0041	Inlet Filter	1
04	SP-088-0004	Inlet Plate	1
05	SP-320-0044	Inlet Plate 'O' Ring	1
06	SP-088-0108-LH	Reed Switch Assembly	1
07	SP-088-0502	Flex	1
08	SP-088-0501	Printed Circuit Board	1
09	SP-088-0013	Flow control Knob	1

Spare Parts - Duraspeed 50/70 & Varispeed 50

Duraspeed Water Pump 50 (HY PUMP50)

Duraspeed Water Pump 70 (HY PUMP70)

Varispeed Water Pump 50 (HY PUMP50 V)



Duraspeed Water Pump 50 (HY PUMP50)

Duraspeed Water Pump 70 (HY PUMP70)

Varispeed Water Pump 50 (HY PUMP50 V)

No.	Part No.	Description	No.Of
01	SP-035-0050	Flexible Hose (Outlet)	1
02	SP-035-0051	Flexible Hose (Inlet)	1
03	SP-035-0041	Inlet Filter	1
04	SP-088-0004-YW	Inlet Plate	1
05	SP-320-0044	Inlet Plate 'O' Ring	1
06	SP-088-0108-PL-LH	Reed Switch Assembly (LH)	1
07	SP-088-0108-PL-RH	Reed Switch Assembly (RH)	1
08	SP-088-0502	Flex	1
09	SP-088-0501	Printed Circuit Board	1
10	SP-088-0013	Flow control Knob	1

No.	Part No.	Description	No.Of
01	SP-035-0050	Flexible Hose (Outlet)	1
02	SP-035-0051	Flexible Hose (Inlet)	1
03	SP-035-0041	Inlet Filter	1
04	SP-088-0004	Inlet Plate	1
05	SP-320-0044	Inlet Plate 'O' Ring	1
06	SP-088-0108-LH	Reed Switch Assembly (LH)	1
07	SP-088-0108-RH	Reed Switch Assembly (RH)	1
08	SP-088-0502	Flex	1
09	SP-088-0501	Printed Circuit Board	1
10	SP-088-0013	Flow control Knob	1

Electrical Requirements

This appliance MUST be earthed!

The Electrical Installation and Circuit Protection of this shower must comply with I.E.E. Wiring Regulations and should be checked by a qualified electrician prior to use.

Please note: You must switch off the power at the consumer unit and remove the correct circuit fuse before making any electrical connection.

The pump must only be connected to a 230-240V ac supply, fused at 3 amps, via a double pole isolator with a contact separation of at least 3mm.

It is recommended that your installation is protected by a 30mA residual current device (RCD).

The isolating switch can be a ceiling mounted pull cord switch within the bathroom or wall mounted in an adjacent room.

In domestic installations you must ensure that the electrical supply and existing fuse board are adequately rated.

Do not turn on the electrical supply unit until the plumbing has been completed.

Connections

All pumps are supplied with a fitted flex.

The colour of the wires in the cable used for the final connection of this appliance may not correspond with the coloured markings identifying the terminals in your flex outlet; connection at the appliance and the flex outlet should proceed as follows.

The wire that is coloured blue must connect to the terminal that is marked with the letter N, or coloured black.

The wire that is coloured brown must connect to the terminal that is marked with the letter L, or coloured red.

The wire that is coloured green/yellow must connect to the terminal that is marked with the letter E, or the earth symbol , or coloured green.

The flex fitted to the pumps can only be replaced by Bristan, Part no. SP-088-0502.

IMPORTANT: When replacing the flex ensure that the control box Cover is replaced without damaging the new cables. The cable Grommet should be used where the cable enters the box.

Water Requirements

Under no circumstances must the pump be connected to a mains water supply.

The installation must comply with all Water Authority and Building By-laws and Regulations.

If the pump is to be installed in a hard water area, we recommend that an in-line scale reducer is fitted. Please refer to your supplier for advice.

The pump must not be installed in an area subject to freezing conditions.

Do not use if you suspect the pump is frozen, this will damage the pump unit.

We recommend a minimum 112litres (25 gallon) cold water storage tank.

Do not use jointing compounds.

Before proceeding with the installation of this unit, it is essential to check that the handset and all pipework will be a minimum of 230mm (9") below the water level in the cold water storage tank.

If your installation does not allow this, you will require a negative head switch. Contact your supplier or Bristan Customer Services. If you have not sourced your negative head switch from Bristan, please contact Bristan Customer Service for a connection block. Please refer to page 8 for details of negative head installation.

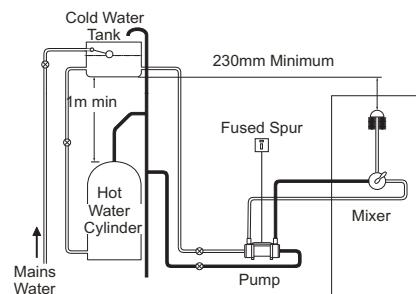
Varispeed SI Water Pump 50

If you are installing a Varispeed SI, where only a gravity feed is available on the hot supply, the pump can be used to boost the gravity hot supply only.

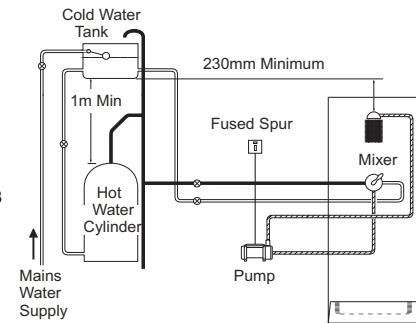
All storage capacities and pipe connections (as shown) should be followed.

The outlet feed from the pump should then run to the mixer valve or tap position, ensuring that the minimum head of 230mm to the handset can be achieved.

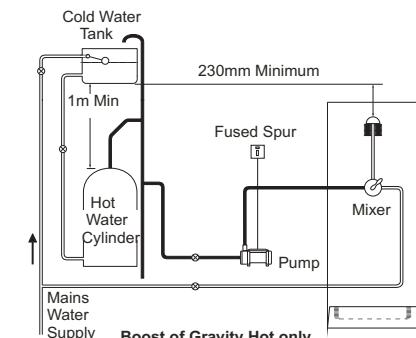
UNDER NO CIRCUMSTANCES MUST ANY OF THE PUMPS BE CONNECTED TO THE MAINS WATER SUPPLY.



Typical Twin Pump Shower Installation



Typical Single Pump Shower Installation



KEY

—	Hot Water	—	Cold Water
~~~~~	Mixed Water	⊗	Isolating Valves

# Troubleshooting

**⚠ Warning:** Before carrying out general repairs or testing the pump, ensure that the electricity supply is turned off at the mains and the correct circuit fuse is removed.

Symptom	Likely Cause	Action/Remedy
Pump will not start	No electricity supply.	Check fuse and electricity supply.
	Flow switch not operating.	Check water flow from showerhead. May require Negative Head switch.
Pump noisy - "squealing"	Possible aeration.	Check pump installed in accordance with instruction book regarding siting, system connections and water temperature.
Pump noisy - "rumbling"	Worn motor brushes.	Replace unit. Check correct installation.
Poor water flow/pressure (Thermostatic shower mixer).	Possible aeration.	Check pump installed in accordance with instruction book regarding siting, system connections and water temperature.
Poor water flow/pressure (Manual shower mixer).	Water supply to/from pump.	Check inlet filters. Check for kinked flexible hoses.
	Possible aeration.	Check pump installed in accordance with instruction book regarding siting, system connections and water temperature.
Fluctuating shower temperature (Manual shower mixer).	Possible aeration.	Check pump installed in accordance with instruction book regarding siting, system connections and water temperature.
Poor performance	Air in system	To completely remove all air from the plumbing system, stop and start the pump consecutively 5 times, 30 seconds on, 30 seconds off.

# Commissioning - Testing the System

## Commissioning - All pumps

Turn on the water supplies and allow the system to fill -

**DO NOT SWITCH ON ELECTRICITY**

### IMPORTANT

All Bristan pumps utilise quality ceramic seals. To prevent damage it is essential that water is allowed to flow through both pump chambers to purge out any airpockets prior to the unit being switched on.

Turn on mixer valve, without the fitted handset allow the water to flow through the hose under gravity in the full hot and cold position for 1 minute. This is to ensure no foreign matter is left in the pipes and the system is purged of air.

At this point we recommend checking the filters for debris, which should be cleaned if required, thus ensuring the best long term performance from the pump.

**NOTE:** Remember to isolate the water supply before removing the hoses to check the filters.

Switch on the electricity supply to the pump.

Turn on the mixer valve (pump should start) and operate at full flow for a further minute or until all remaining air is purged from the system.

**NOTE:** For negative head installation, operate the starting switch for long enough for the air to purge from the flow switches.

Turn off mixer valve and attach handset to hose. The commissioning procedure is now complete.

**NOTE:** All of the pumps apart from Singlespeed incorporate a variable speed control, which should be set to suit the users requirements and to achieve optimum performance through the handset. Turn the control anti-clockwise to increase and clockwise to decrease the output.

Do not use excessive force. We recommend the pump runs at the minimum speed necessary to give satisfactory performance (normally 10-12 litres of water per minute). Running the pump at too high an output can waste hot water and increase noise from the pump motor and contravene the UK water regulations.

**NOTE: AIR IN THE SYSTEM** - To completely remove all air from the plumbing system, stop and start the pump consecutively 5 times, 30 seconds on, 30 seconds off.

**⚠ Warning:** This appliance is not intended for use by persons (including) children with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

# Installation

## Duraspeed Water Pump 50/70

### Varispeed Water Pump 50

### Singlespeed Water Pump 50

Twin booster pumps are best installed in the airing cupboard with separate hot and cold water supplies running to the pump. For correct operation of the shower pumps, both hot and cold water supplies to the unit must be gravity fed, at nominally equal pressures; cold water from a cold water storage tank and hot water from a hot water storage cylinder fed from a cold water storage tank.

## Varispeed SI Water Pump 50

Single booster pumps are best installed after the mixing valve with blended hot and cold water running to the pump and then to the handset position. With a recessed installation, the outlet from the mixer valve can be fed to the inlet of a single ended pump, and the pump outlet connected to the shower hose, normally via a shower hose union elbow.

### Important:

Please be aware of the following when planning your installation:

All plumbing should be completed before any electrical connections are undertaken.

The pump must be positioned in a dry area i.e. in a linen/airing cupboard, as close to the base of the hot cylinder as possible, ideally pushing water not pulling. The pump will work most efficiently when fitted close to the hot water cylinder.

The pump must not be mounted in the loft, as this leaves it vulnerable to freezing, and air locks.

The pump should be in a well-ventilated position and not covered with towels, clothes, etc. and accessible for future servicing and maintenance.

The pump can be connected to a combination cylinder system providing it has a cold water storage capacity of 112 litres. When connecting pipework avoid using elbows. Sweep or formed bends will ensure optimum performance.

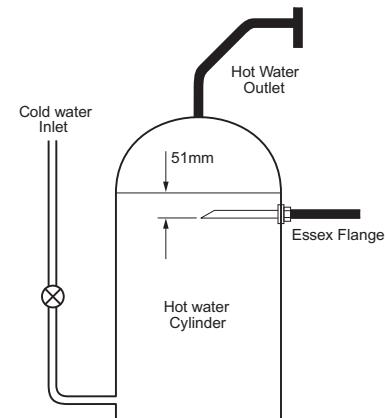
The minimum inlet size is 15mm for all pipework to and from the pump. Do not solder within 300mm of the pump, or expose parts to excessive heat.

Do not run the pump dry.

Make your connection into the hot water supply pipe from the cylinder, ensuring that it is in the vertical pipe (below the expansion pipe tee). A minimum of 1 metre below the base of the cold water storage tank and the top of the hot water cylinder must be achieved. See diagrams on page 6. If this is not possible, a direct connection must be made from the hot water cylinder with an Essex Flange with a dip tube.

Non restrictive full bore isolating valves (accessible for ease of maintenance on hot and cold supplies to the pump) must be fitted e.g. gate valve. In normal circumstances the temperature of the stored water must not exceed 65°C. A stored water temperature of 60°C is considered sufficient to meet all normal requirements and will minimise limescale in hard water areas.

Important the booster pump and all connecting pipework must be earthed.



Position of Essex Flange

# Fitting your Pump

## Installation Procedure

### Important

Do not connect brass or copperfittings directly on to the pump threads. Use only the hoses supplied with the pump.

Isolate appropriate water and electrical supplies. For the benefit of the user and for any future servicing please fit full bore isolating valves 1/2 metre from the pump on the inlet pipework.

Twin pumps only: The cold water supply should be taken directly from the cold storage tank, and must be positioned 60mm below the cold feed connection to the hot water cylinder.

Proceed with specific installation details as appropriate to the pump being installed.

Flexible connectors should not be bent. Where possible keep all flexible connectors vertical.

Connect the flexible connectors supplied to the inlet and outlet ports of the pump. Ensure that the adaptors fitted to the inlets have filters in position.

**NOTE:** These are designed to effect a leakproof seal with the minimum of tightening. Hand tight is sufficient, the elbow flexible connectors should be on the inlets. Ensure not to kink the flexible hoses.

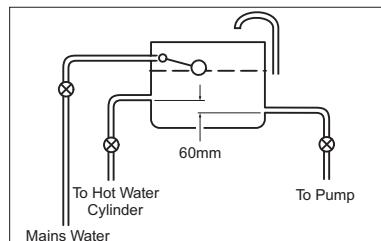
Either end inlet can be used for hot or cold. (Twin pumps only)

**IMPORTANT:** The integral fittings on the hose are of a push fit type. All burrs and rough edges must be removed from the end of the pipe. In the case of a chrome plated pipe, the first 25mm of plating should be roughened or removed. Should it be necessary to remove the pipe after installation, push down the collet and pull pipe. Make sure water supply is isolated before attempting this operation.

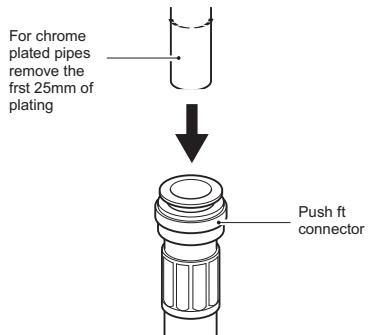
Connect fitted flex into the fused spur outlet, in accordance with the 'Electrics' chapter.

Either by hand or using a coin, rotate boost control fully anti-clockwise, to maximum mark. (Excludes Singlespeed Water Pump 50 model only)

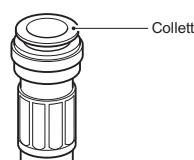
**WARNING:** Do not fit fuse or switch on mains electrical supply at this point.



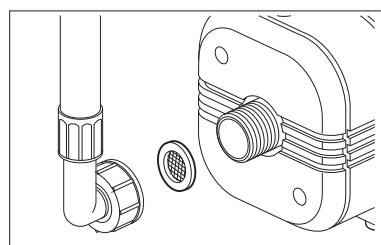
Water Tank Detail



Pipe Connection



Pipe Removal



Inlet Pipe Filters

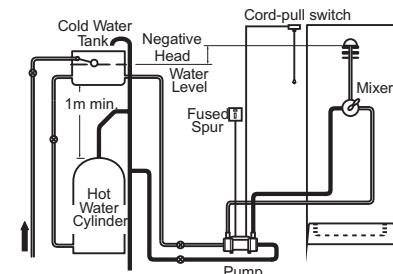
## Negative Head Option

Where the shower handset or pipework from the pump to the shower, is less than 230mm below the water level in the cold water tank, or in cases where it is above the water level, there will be no natural flow to lift the flow switches and start the pump. A negative head kit will be required to manually start the pump. Bristan Customer Services can supply a negative head kit, part no. 564-1000. If Bristan have not supplied your negative head switch, please contact Bristan Customer Services for a special connection block.

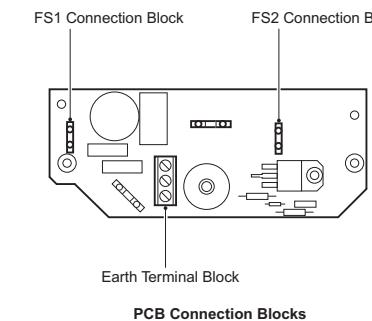
### Procedure

Instructions: Fit the electric pull cord switch adjacent to the showering area. Using 1.0mm² twin and earth cable (not supplied), connect the earth wire to the earth terminal (using a suitable length of green/yellow sleeving) and the remaining two wires to the L1 and L2 in the pullcord switch. Run the cable to the pump and then connect the earth wire (using a suitable length of green/yellow sleeving) to the earth terminal and the remaining two wires to the connection block on FS1 or FS2. Connect to only FS1 or FS2 not both. Ensure that the original Flow switch wires are reterminated in the new connection block.

**IMPORTANT:** Ensure that the control box cover can be replaced without damaging the new cable. A cable grommet should be used where the cable enters the box.



Twin - Pump Negative Head Installation



PCB Connection Blocks